

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference

P 611111 PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/DE2005/000073

International filing date (day/month/year)

20.01.2005

Priority date (day/month/year)

17.03.2004

International Patent Classification (IPC) or both national classification and IPC

G10K11/172

Applicant

EADS DEUTSCHLAND GMBH

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/DE2005/000073

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/DE2005/000073

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-3</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-3</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-3</u>	YES
	Claims _____	NO

2. Citations and explanations:

1. Reference is made to the following document:

D1: GB-A-2 005 384 (ROLLS-ROYCE LTD) 19 April
1979 (1979-04-19)

2. D1 is considered to be the prior art closest to the subject matter of claim 1. Said document discloses (the references in parentheses relate to D1) an assembly for reducing the noise generated by turbofan power units in the hot gas zone (see page 1, lines 5-8), wherein there is used an acoustic absorbent lining of the hot gas flow duct of the turbofan power unit, comprising:

- a plurality of mutually adjacent cavities, a Helmholtz resonator extending into each cavity (see figure 1),
- the resonator being secured with its resonator opening to a perforated sheet cover (see page 1, lines 59-65) and the sheet cover forming one wall of the hot gas flow duct (see page 1, lines 113-116; and page 2, lines 31-38).

The subject matter of claim 1 differs from the device known from D1 in that four horns extend into each cavity.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/DE2005/000073

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The problem addressed by the present invention can therefore be considered that of providing a lightweight device for effectively reducing the noise generated by turbofan power units in the hot gas zone. The cavities contain a plurality of Helmholtz resonators and are separated from each other by a common side wall. A very lightweight construction is thus achieved.

The subject matter of claim 1 thus involves an inventive step (PCT Article 33(3)).

Claims 2-3 are dependent on claim 1 and therefore likewise satisfy the PCT novelty and inventive step requirements.

10/592 932

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☐

a sequence listing

☐

table(s) related to the sequence listing

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☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

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☐

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☐

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International application No.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-3	YES
	Claims		NO
Inventive step (IS)	Claims	1-3	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-3	YES
	Claims		NO

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Box No. V

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